

A FAREWELL TO ARMS:
AN EXPLORATION OF THE RELATIONSHIP BETWEEN
LICIT SMALL ARMS AND VIOLENCE IN THE MIDDLE EAST AND NORTH AFRICA

by
Katherine Wickham

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Abstract

The trafficking of illicit small arms and light weapons (SALW) is a continual security threat in the Middle East and North Africa. One of the methods for obtaining illicit SALW within these two regions is the diversion of licit arms. Trafficked SALW can be used in many different types of violence, including non-state actor violence and violence against civilian populations. The relationship between legal and illegal SALW can be studied by applying a joint commodity framework to legal arms import statistics. Using a quantitative approach, this research applies the joint commodity framework to assess the relationship between SALW transfers and non-state actor violence and violence against civilians in the Middle East and North Africa regions. This study concludes that there is a relationship between non-state actor violence and legal SALW imports within the Middle East and North Africa. Conversely, this study also concludes that there is not a relationship between violence against civilians and legal SALW imports within the two regions. Overall, this study demonstrates that the joint commodity framework serves as an accurate model to assess the relationship between licit arms transfers and different types of violence.

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Introduction

The phenomenon of illicit arms trafficking continues to serve as a global issue that causes adverse consequences in regions around the world. It serves as a threat to the stability of governments worldwide and remains a security concern across regions. The trafficking of small arms and light weapons is a specific threat that differs from the cumulative phenomenon of arms trafficking. The differentiating factor in the trafficking of small arms and light weapons is their portability and transferability. Whereas major weapon systems are likely to stay in one location or general area, two parties can easily transfer small arms and light weapons in a simple exchange. Additionally, if left unattended, other parties can quickly take small arms and light weapons for their use. Concealment also plays a significant role in the continuing issue of small arms and light weapons trafficking. Major weapons, if stolen or achieved through illicit means, are more difficult to conceal. Even if larger weapons are mobile, it takes time to move and is much easier to detect. Small arms and light weapons are entirely different in this aspect. Indeed, once obtained, they can be easily concealed in various manners including on one's person; within a mode of transportation, such as a car; or hidden in a discreet location for later retrieval and use.

Illicit small arms and light weapons are used by many parties, including governments, non-state actors, or a country's civilian population. The parties who obtain small arms and light weapons serve as a threat to government stability within the respective region and the safety of the nearby civilian population. As noted by the United Nations Office on Drugs and Crime, "illicit firearms are present in most forms of violent crimes and increase the power of organized criminal groups."¹ Regardless of who obtains these weapons, if they are not the intended

¹ United Nations Office on Drugs and Crime. "Firearms Trafficking". February 2020.

recipient, they are a security concern. The security concern of small arms and light weapons continues even if there is no malicious intent behind their acquisition. If weapons are obtained illegally, the group that holds them is not the intended end recipient. Illegal weapons acquisition constitutes a threat, regardless of the intent behind their procurement. Illicit arms trafficking is also an issue that coincides with other transnational criminal activities, including drug trafficking.² As these transitional activities continue and feed off one another, the regional and global security implications increase. Thus, while arms trafficking appears to be an independent phenomenon, it is closely tied with other criminal activities and destabilizing operations in regions worldwide.

The illicit trafficking of small arms and light weapons is a consistent problem in many regions, but it remains a particular problem within the Middle East and North Africa. In these two regions, transnational terrorists and non-state actors work across borders to achieve overarching objectives.³ The areas also contain governments that are at war or facing domestic insurgencies within their own borders.⁴ Due to these contributing factors, the Middle East and North Africa regions are a haven for small arms and light weapons trafficking. Whether the legal arms are lost, traded by corrupt officials, abandoned, or obtained through violent means, licit arms are continually being transformed into illicit weapons and ending up in the possession of other parties. The dominance of illicit arms trafficking within the Middle East and North Africa continues to have a destabilizing effect on the two regions and the security of the populations

² United Nations Office on Drugs and Crime, “Links Between Illicit Drug Trafficking and Illicit Firearms Trafficking,” Resolution 51/11, 2009, 2.

³ Clayton Thomas, Jeremy M. Sharp, Christopher M. Blanchard, and Christina L. Arabia. *Arms Sales in the Middle East: Trends and Analytical Perspectives for U.S. Policy*. Washington, D.C.: Congressional Research Service, November 23, 2020. 1.

⁴ *Ibid*, 1.

within its borders. Due to the strong presence of illicit arms trafficking within these two regions, this study will focus on the Middle East and North Africa.

In addition to the security threat posed by the illicit trafficking of small arms and light weapons in the Middle East and North Africa, the elusive nature of illicit weapons makes the issue difficult to track and address. Much like other illegal activities, such as drug trafficking, traditional arms trafficking methods have utilized seizure information as the key focus in addressing the issue and creating a path forward. However, the use of seizure data addresses the problem after the illicit activity has already occurred. Illegal arms seizure data can outline trafficking patterns, but it does not directly address the issue. A new form of analysis is needed to combat the subject of illegal arms trafficking. This study will test a unique point of statistical analysis: legal arms transfers. In doing so, it will also consider the relationship outside actor violence. This study will center around one question: **How do legal arms transfers affect non-state actor violence and one-sided violence against civilians within the Middle East and North Africa?** This study will explore the possibilities of legal arms assessment in the Middle East and North Africa and the role of legal arms in addressing the global illicit arms trafficking problem.

Literature Review

The following is a review of current and recent academic literature related to licit and illicit arms transfers. While the existing scholarship provides an overview of subjects that touch upon the research question in this study, there is no research that addresses the issue in a similar manner. Existing research is helpful in understanding the phenomenon of illicit arms trafficking, but it does not approach the measure in the quantitative way that this research study does.

Measuring Arms Trafficking

While arms trafficking seizure data is difficult to obtain, academic literature has attempted to subvert this obstacle through the quantitative and qualitative measurement of statistics related to the illicit arms trade. Additionally, previous scholarship has created frameworks and assessment tools for future measuring of arms trafficking. As described by Nowak and Carlson, the numerous sources of arms trafficking make illicit arms flows difficult to measure.⁵ While arms trafficking statistics are difficult to acquire, several works have utilized other statistics in place of specific arms trafficking statistics. Carlson, for example, utilized weapons seizure data and illegal firearm market prices to calculate the illicit arms in Somalia.⁶ Similarly, Nowak examined illicit arms prices data, arms seizure data, and firearms homicides within Honduras.⁷

Additional statistics are also evident in the work of Marsh, who utilized press reports and UN Security Council statistics to outline the seizure of illicit weapons from Libya, Algeria, Egypt, Chad, Sudan, and Tunisia.⁸ De Tessières also uses data on the arms seizures by the Nigerien armed forces and gendarmerie and interviews about the prices of arms and ammunition. De Tessières also utilized reported armed robbery statistics in her measurement of illicit arms in Niger.⁹ As the above research demonstrates, the seizure information for certain countries is made available by the government. However, it is important to note that seizure statistics are not

⁵ Matthias Nowak, "Measuring Illicit Arms Flows: Honduras". *Small Arms Survey Research Notes* no. 62 (November 2016), 2; and Christopher Carlson, "Measuring Illicit Arms Flows: Somalia". *Small Arms Survey Research Notes* no. 61 (October 1, 2016). 2.

⁶ Christopher Carlson, "Measuring Illicit Arms Flows: Somalia". *Small Arms Survey Research Notes* no. 61 (October 1, 2016). 2-3.

⁷ Matthias Nowak, "Measuring Illicit Arms Flows: Honduras". *Small Arms Survey Research Notes* no. 62 (November 2016). 2-3.

⁸ Nicholas Marsh. "Brothers came back with weapons: the effects of arms proliferation from Libya." *Prism* 6, no. 4 (2017): 81.

⁹ Savannah De Tessières. *Measuring Illicit Arms Flows: Niger*. Geneva, Switzerland: Small Arms Survey, March 2017. 7-9.

widely available for most countries. Additionally, the lack of a centralized seizure database contributes to the lack of information.

Additional research has attempted to create a firearms tracing framework to measure illicit firearms trafficking. A key framework is in the work of Ivanova in which arms exports and imports served as a measurement of small arms and light weapons transfers.¹⁰ While the framework Ivanova identified is theoretical, it outlines the potential measurement of legal arms and illegal arms as joint goods and the use of official arms transactions as the basis for illegal arms transfers.¹¹

Legality of Arms Trafficking

Within the academic literature dedicated to arms trafficking, scholars have addressed the criminality and legal constructs of the phenomenon. Additionally, Rothe and Collins note that “the broader small arms market should be considered as a system that facilitates criminogenic conditions and small arms trafficking.”¹² Within the concept of system criminality, arms trafficking is displayed on a continuum to reflect the varying transactions and actors that contribute to the holistic criminal nature of the arms trafficking phenomenon.¹³ As noted by Rothe and Collins, “the line between legal and illegal, intended destination, intermediary locations, final destination, involvement of transnational networks, corporations and states reveals a complex system of actors and actions.”¹⁴ The authors argue that system criminality can

¹⁰ Kate Ivanova and Anna Ivanova. “An Analysis of Illicit Arms Trade”. APSA 2009 Toronto Meeting Paper. (2009). 15.

¹¹ Ibid, 4.

¹² Dawn L. Rothe and Victoria Collins. “An Exploration of Applying System Criminality to Arms Trafficking.” *International Criminal Justice Review* 21, no. 1 (March 2011): 23.

¹³ Ibid, 24.

¹⁴ Ibid, 24.

be applied to arms trafficking to address the phenomenon under international law.¹⁵ In addressing the limitations of international law in combating arms trafficking, Rothe and Ross discuss the need to hold multiple actors accountable for actions of arms trafficking.¹⁶ When describing a change in the legal applications of arms trafficking, Rothe and Ross conclude that several actors, including the source countries and diversion countries, should hold legal responsibility for the eventual trafficking of arms and the actions committed with the trafficked arms.¹⁷ In another piece of scholarship, Rothe and Ross argue this point further by extending the complicity of source and diversion states in the arms trafficking process.¹⁸ This literature addresses important points about the roles that legal arms transfers play in the arms trafficking process.

Preventing Arms Trafficking

There are numerous pieces of academic scholarship dedicated to the study of the prevention of arms trafficking. The academic literature is devoted to several topics within the prevention subject, including recent coordination efforts, public and private networks, regional policies, uniformity in enforcement, and state responsibility. Greene discusses recent coordination efforts, including legal arms transfer regulation, arms brokering, marking and tracing of firearms, stockpile management and destruction, and arms collection from civilians.¹⁹ Additional topics addressed by Greene demonstrate the difficulties in coordination between

¹⁵ Ibid, 26.

¹⁶ Dawn L. Rothe and Jeffrey Ian Ross. "How States Facilitate Small Arms Trafficking in Africa: A Theoretical and Juristic Interpretation." *African Journal of Criminology and Justice Studies* 5, no. 1 (2012): 11.

¹⁷ Ibid, 11.

¹⁸ Dawn L. Rothe and Jeffrey Ian Ross. "The State and Transnational Organized Crime. The Case of Small Arms Trafficking." *Routledge Handbook of Transnational Organized Crime*, London: Routledge (2011): 399.

¹⁹ Owen Greene. "Examining International Responses to Illicit Arms Trafficking". *Crime, Law and Social Change* 33 (2000): 152.

regional, state, and international entities.²⁰ Additionally, in the work of Snyder, the author identifies the lack of uniformity in national laws across the international community.²¹ In his work, Snyder identifies a crucial and debated topic in the academic literature that while one state may have compliance or ends-laws and strict enforcement, another country may not have any of these mechanisms in place to stifle the arms trafficking process.²² In response to the difficulties of coordination, additional authors provide recommendations. Whereas some authors, such as Greene, offer an international solution to the problem, including an international action program, others such as Bolton et al. and Berman focus on the coordinated regional and local efforts to combat illicit arms trafficking.²³ Bolton, et al. further argue the key role that overlapping initiatives and programs play in preventing illicit arms trafficking.²⁴ Berman also addresses the value of regional policies and frameworks that are more stringent than the UN's requirements for managing the control of small arms and diversion to illicit actors.²⁵ Additional work, such as Gildea and Pierce's literature, creates an assessment framework to analyze the effectiveness of a country's small arms export control mechanisms.²⁶ Lastly, under the arms trafficking prevention scholarship, there is literature that addresses various stakeholders' complicity in the arms trafficking cycle. Whereas Rothe and Ross discuss the complicity of all actors involved, not

²⁰ Ibid, 152.

²¹ Neil N. Snyder. "Disrupting Illicit Small Arms Trafficking the Middle East" (Thesis, U.S. Naval Postgraduate School, 2008). 17.

²² Ibid, 17.

²³ Greene. "Examining International Responses to Illicit Arms Trafficking". 186; Matthew Bolton, Eiko Elize Sakamoto, and Hugh Griffiths. "Globalization and the Kalashnikov: Public-Private Networks in the Trafficking and Control of Small Arms." *Global Policy* 3, no. 3 (2012): 8; Eric G. Berman. *Beyond Blue Helmets: Promoting Weapons and Ammunition Management in Non-UN Peace Operations*. Geneva, Switzerland: Small Arms Survey, March 2019. 52.

²⁴ Bolton, et al. "Globalization and the Kalashnikov: Public-Private Networks in the Trafficking and Control of Small Arms." 8.

²⁵ Berman. *Beyond Blue Helmets: Promoting Weapons and Ammunition Management in Non-UN Peace Operations*. 52.

²⁶ Timothy Gildea and Glenn Pierce. "Small Arms and Light Weapons Trafficking: Creating an Assessment Framework from the US Experience." *Nonproliferation Review* 14, no. 1 (2007): 2-4, 33.

solely heads of state, Bolton, et al. address the phenomenon of arms trafficking from the standpoint of the varying public and private networks involved.²⁷ As noted by Berman and Muggah, small arms proliferation is not solely a supply-based phenomenon.²⁸ Both demand and supply are key factors in the arms trafficking process.

Logistics of Arms Trafficking

Academic scholarship has also dedicated works to explain the logistics of illegal arms trafficking, which serves as a critical piece of the illicit arms phenomenon. Some scholarship centers around trafficking methods, whereas others focus on specific cases of arms trafficking and common trafficking routes. Overall, the existing academic literature indicates that there are many ways and methods in which small arms and light weapons can be diverted and illegally obtained. In an article by Thachuk and Saunders, the authors address both the airborne method of arms transfers and the specific trafficking route from former Soviet states through the United Arab Emirates to Africa.²⁹ Thachuk and Saunders also note that the logistics of airborne arms trafficking is similar to the supply chain of a licit business in that the appropriate skills and global business understanding are necessary.³⁰ Marsh describes the role that porous borders and poor stockpile management played in the aftermath of the Libyan civil war.³¹ Marsh also describes the specific illicit arms movement from Libya to Algeria, Chad, Egypt, Tunisia, and

²⁷ Bolton, et al. "Globalization and the Kalashnikov: Public-Private Networks in the Trafficking and Control of Small Arms." 1; Rothe, Ross. "The State and Transnational Organized Crime. The Case of Small Arms Trafficking." 399-400.

²⁸ Robert Muggah and Eric Berman. *Humanitarianism Under Threat: The Humanitarian Impacts of Small Arms and Light Weapons*. Geneva, Switzerland: Small Arms Survey, July 2001. XI.

²⁹ Kimberley Thachuk and Karen Saunders, "Under the Radar: Airborne Arms Trafficking Operations in Africa". *European Journal on Criminal Policy & Research* 20 (2014): 361-362

³⁰ *Ibid*, 362

³¹ Nicholas Marsh. "Brothers came back with weapons: the effects of arms proliferation from Libya." *Prism* 6, no. 4 (2017): 80.

Sudan.³² Jenzen-Jones and McCollum also describe the outflow of illicit arms from Libya via online arms markets.³³

Additional literature is devoted to the common elements that contribute to illicit arms trafficking. As further described by Stohl, small arms trafficking centers around legitimate international channels, systems, and infrastructures, as well as newly-developed illicit networks.³⁴ Stohl describes seven ways in which the diversion of licit arms can occur. These methods include shipping legal weapons to barred countries, directly or indirectly, poor stockpile management, looting of national arsenals, lost weapons, soldiers selling weapons for cash, weapons stolen from civilian owners, and the facilitation of small arms to the illicit market through domestic purchasing laws.³⁵ Berman provides a further breakdown of the specific situations that can lead to diversion and loss of arms within peacekeeping missions, including attacks on fixed sites, attacks on patrols, and attacks on convoys and troop movements.³⁶ Additional causes of diversion listed include burglary and robbery, airdrops, forced abandonment, and corruption.³⁷

As noted by Snyder, the global legal production of weapons is highly relevant to the illicit arms trade.³⁸ Snyder also notes that “at virtually any point in the supply chain, a legally produced weapon can become ‘gray’ or ‘black: through theft, fraudulent sale, or transfer through or to inappropriate actors.”³⁹ As noted by Rothe and Ross, the “line between legal and illegal,

³² Ibid, 80.

³³ N.R. Jenzen-Jones and Ian McCollum. *Web Trafficking: Analyzing the Online Trade of Small Arms and Light Weapons in Libya*. Geneva, Switzerland: Small Arms Survey, April 2017. 26.

³⁴ Rachel Stohl. *The Tangled Web of Illicit Arms Trafficking*. Washington, D.C.: Center for American Progress, October 12, 2004. 21.

³⁵ Ibid, 22.

³⁶ Eric G. Berman. *Beyond Blue Helmets: Promoting Weapons and Ammunition Management in Non-UN Peace Operations*. Geneva, Switzerland: Small Arms Survey, March 2019. 35-36.

³⁷ Ibid. 39-41.

³⁸ Snyder. “Disrupting Illicit Small Arms Trafficking the Middle East”. 20.

³⁹ Ibid, 20.

‘intended’ destination, intermediary locations, and states reveals a complex system of actors and actions.⁴⁰ The fine line between legal and illegal is a key element to the scholarship on illicit arms trafficking.

Economics of Arms Trafficking

Academic scholarship also discusses the attributes of arms trafficking compared to the economics of a licit business. Arsovska and Kostakos discuss the arc of supply and demand in the Balkans, concluding that traditional economic market forces play a significant role in the illicit arms trafficking market.⁴¹ Demand for illegal arms can derive from a variety of factors, including inequality, urban crime, and an increased desire for self-protection.⁴² Additionally, the literature supports the close relationship between licit arms supply and illicit arms demand. As described by Berman and Muggah, “it also appears that domestic supply is in some cases feeding demand.”⁴³ Snyder also notes that the international small arms trade has benefitted from globalization and increased economic interdependence in the same manner as other international businesses.⁴⁴ Globalization further encourages the sale and delivery of weapons worldwide due to the reduced restrictions on the movement of goods.⁴⁵ Snyder’s work also highlights the role that supply and demand play in the illegal arms trafficking process, including the establishment of small arms prices.⁴⁶ Moreover, as supply and demand for licit and illicit small arms and light

⁴⁰ Rothe, Ross. "How States Facilitate Small Arms Trafficking in Africa: A Theoretical and Juristic Interpretation." 2.

⁴¹ Jana Arsovska and Panos A. Kostakos. "Illicit Arms Trafficking and the Limits of Rational Choice Theory: The Case of the Balkans." *Trends in Organized Crime* 11, no. 4 (2008): 369-370.

⁴² Muggah and Berman. *Humanitarianism Under Threat: The Humanitarian Impacts of Small Arms and Light Weapons*. 10.

⁴³ *Ibid*, 10.

⁴⁴ Snyder. "Disrupting Illicit Small Arms Trafficking the Middle East". 21.

⁴⁵ *Ibid*, 21-22.

⁴⁶ *Ibid*, 22-24.

weapons changes, so does the prices that are associated with the weapons. Brauer and Muggah also provide insight into the demand for small arms by characterizing demand for small arms as a function of means and motivation.⁴⁷ Overall, the illicit arms market demonstrates similar traits to the economic models for licit business. While this is inherent in the fact that illegal arms are commodities just like legal arms, it also indicates the means and motivation of outside individuals in obtaining these arms.

Arms Trafficking and Non-State Actors

Academic scholarship has also devoted literature to the use of illicit small arms and light weapons by non-state actors. The history of the issue is highlighted by work of Enomoto, which notes the precedent for arms transfers by and transfers to “individuals and groups other than the ruling authority.”⁴⁸ A portion of this scholarship is devoted to describing certain non-state organizations or regions. As noted by Clarke, illicit arms are used to further the violent activities of many groups, including the Taliban, al-Qaeda, and the Islamic State.⁴⁹ Non-state actors obtain illicit arms through various mechanisms, including theft, corruption, and the raiding of stockpiles. Both Demuyneck and Clarke discuss the raiding of stockpiles in North Africa, Iraq, and Syria.⁵⁰

⁴⁷ Jurgan Brauer and Robert Muggah, “Completing the Circle: Building a Theory of Small Arms Demand,” *Contemporary Security Policy* 27, no. 1 (2006): 140.

⁴⁸ Tamara Enomoto. "Controlling Arms Transfers to Non-state Actors: From the Emergence of the Sovereign-State System to the Present." *History of Global Arms Transfer*, 3 (2017): 3.

⁴⁹ Colin P. Clarke. *Small Arms and Light Weapons (SALW) Trafficking, Smuggling, and Use for Criminality by Terrorists and Insurgents: A Brief Historical Overview*. The Hague, Netherlands: International Centre for Counter-Terrorism, 2020. 11.

⁵⁰ Meryl Demuyneck, Tanya Mehra, and Reinier Bergema. *ICCT Situation Report: The Use of Small Arms and Light Weapons by Terrorist Organizations as a Source of Finance in the Middle East and North Africa*. The Hague, Netherlands: International Centre for Counter-Terrorism. May 2020. 10.; Colin P. Clarke. *Small Arms and Light Weapons (SALW) Trafficking, Smuggling, and Use for Criminality by Terrorists and Insurgents: A Brief Historical Overview*. 12.

Overall, the academic literature highlights the importance of networks in the use of illicit arms by non-state actor groups. Clarke discusses the importance of networks to both al-Qaeda and the Islamic State. the Islamic State maintained a diversified weapons network and series of contacts, including other insurgent groups and corrupt members of security forces.⁵¹ Conversely, Al-Qaeda's use of illicit weapons came about as the group established networks across the Middle East and Southeast Asia, leading to an influx of small arms and light weapons through illicit networks.⁵²

Demuyne et al. provide a different perspective regarding the value of trafficked arms to non-state actors.⁵³ Demuyne et al. note that due to the durability and dual-purpose use of small arms and light weapons, they contain a high strategic value for non-state actors and terrorist organizations.⁵⁴ Small arms and light weapons are used to carry out attacks, establish control over territory, obtain financing, and conduct other illegal activities in support of the group.⁵⁵ Clarke also demonstrates that terrorist and insurgent groups have consistently utilized the illicit trade of small arms and light weapons to satisfy their demand for weapons.⁵⁶ Even in post-conflict settings where disarmament or reintegration occur, non-state actors hoard weapons for future peacetime and conflict use.⁵⁷ In turn, those weapons become a key piece in the cycle of violence committed by historical and contemporary non-state actors. Demuyne et. al summarize this by noting that the longstanding presence of terrorist organizations in the Middle East and

⁵¹ Ibid, 12.

⁵² Ibid, 12.

⁵³ Demuyne, et al. *ICCT Situation Report: The Use of Small Arms and Light Weapons by Terrorist Organizations as a Source of Finance in the Middle East and North Africa*. 2.

⁵⁴ Ibid, 2.

⁵⁵ Ibid, 2.

⁵⁶ Colin P. Clarke. *Small Arms and Light Weapons (SALW) Trafficking, Smuggling, and Use for Criminality by Terrorists and Insurgents: A Brief Historical Overview*. 12.

⁵⁷ Ibid, 13.

North Africa has contributed significantly to the proliferation of small arms and light weapons within the region.⁵⁸

Additional academic scholarship is devoted to the intersection between small arms and light weapons trafficking, terrorism, and crime. As described in the works of Cheema and Clarke, this connection references the crime-terror nexus. The works of both Clarke and Cheema discuss the role that the crime-terror nexus plays in the instability of a state.⁵⁹ Cheema further notes the threat that arms trafficking and improper deterrence can play in threatening the security of the state.⁶⁰ Additionally, the literature notes that ineffective counterterrorism policies, inadequate military and search operations, and lack of change in weapons acquisition processes have only exacerbated this problem.⁶¹ Cheema notes that the spread of small arms as a tool of violence ultimately leads to society's socio-economic and security deterioration.⁶² As non-state actors' capabilities and arms holdings grow, their operations within the crime-terror nexus only increase.⁶³ When the accessibility of small arms becomes an apparatus of force against a country's citizens and institutions, it is a threat to human security.⁶⁴ Clarke also makes an important point regarding the role of small arms trafficking in contributing to low-intensity conflicts, including conflicts with non-state actors.⁶⁵ This is a key concept that will be tested and highlighted within this research study.

⁵⁸ Demuyne, et al. *ICCT Situation Report: The Use of Small Arms and Light Weapons by Terrorist Organizations as a Source of Finance in the Middle East and North Africa*. 12.

⁵⁹ Ryan Clarke. *Crime-Terror Nexus in South Asia: States, Security and Non-State Actors*. (Hoboken: Taylor & Francis, 2011), 78-79; Raheela Asfa Cheema. "Small Arms Trafficking and Crime-Terror Nexus." *Defence Journal* 17, no. 7 (2014): 46.

⁶⁰ Raheela Asfa Cheema. "Small Arms Trafficking and Crime-Terror Nexus." *Defence Journal* 17, no. 7 (2014): 51.

⁶¹ *Ibid*, 51.

⁶² *Ibid*, 51.

⁶³ *Ibid*, 51.

⁶⁴ *Ibid*, 52.

⁶⁵ Ryan Clarke, *Crime-Terror Nexus in South Asia: States, Security and Non-State Actors*. (Hoboken: Taylor & Francis, 2011), 30.

Discussion of the Literature

Overall, the academic literature on the illicit trafficking of small arms and light weapons addresses the phenomenon as it currently exists. The prevention of arms trafficking is dominant in the literature. A variety of scholars attempt to provide frameworks and case studies for the future reduction or elimination of arms trafficking within the global community. Additionally, the prevention literature utilizes historical examples to provide additional context and recommendations. The logistics of arms trafficking is also dominant within the academic literature. Legal small arms and light weapons can be transformed into illicit weapons in many different ways. The literature also includes historical examples of legal arms diversion for illicit activities and the theoretical overview of the phenomenon and its causes. A crucial point within the logistics literature is the almost instantaneous transformation of a legal weapon into an illicit one. This transformation is a key cornerstone of this study. This concept also aligns with the literature on the legality of arms trafficking. The legal literature highlights the central functions that responsibility and motivation play in the arms trafficking process. The legal scholarship also highlights the role of the rational choice theory in calculating the potential gains that can come from violating criminal laws through arms trafficking. The literature devoted to the economic aspects of arms trafficking addresses supply, demand, and the role of globalization in the trafficking of small arms and light weapons. The economic literature is consistent with the theory that there is a strong similarity between licit arms markets and illicit arms markets.

Academic literature also demonstrates a clear tie between illicit arms and non-state actors. While the literature does not attempt to measure the relationship between the two, it points to key relationships between illicit small arms and light weapons and non-state actor organizations. Lastly, the academic scholarship devoted to measuring small arms trafficking and

seizures is a critical category of literature in relation to this study. The literature outlines several abstract frameworks and theoretical variables that can measure the phenomenon of small arms trafficking. While these frameworks and variables are helpful in understanding the phenomenon, they cannot be easily tested due to the lack of arms trafficking statistical data. One critical statistical benchmark for arms trafficking, arms seizure data, is rarely available to the public. In the literature that does perform statistical analysis, there are only small samples of seizure and illicit arms data on which the hypotheses and overall literature are based. This study will address a missing piece in the measurement literature and build upon a key concept outlined by Ivanova: the analysis of licit weapons and illicit weapons as interchangeable joint commodities.⁶⁶ The academic literature noted several times the fine line between a weapon being legal or illegal. This study will take this concept one step further by considering both legal and illegal weapons as interchangeable. It will also address a second topic on which the academic literature is sparse: comparing the relationship between specific acts of non-state actor violence and legal arms imports. This concept will also be extended to address the relationship between attacks on civilians and legal arms imports.

Hypotheses

This research study aims to test the relationships between legal arms transfers, non-state actor violence, and one-sided violence against civilians. To accomplish this goal, this study will explore several critical concepts that have been conceptualized in academic literature but not previously tested. The idea of licit and illicit arms as joint commodities is the key framework behind this study. As reflected in the academic scholarship, the difference between legal and

⁶⁶ Kate Ivanova and Anna Ivanova. "An Analysis of Illicit Arms Trade". APSA 2009 Toronto Meeting Paper. (2009). 15.

illegal arms can alter instantaneously with a change of possession or mode of transportation. As joint commodities with ease of movement, small arms and light weapons are especially susceptible to this sudden change in legal status. With the change in legal status comes a possible change of ownership, location, and use. While the distinction between licit and illicit arms is essential when addressing the legality and criminality of their use, this study will treat them as joint artifacts. The interchangeability of small arms and light weapons is a key concept that will serve as a major cornerstone of this research study.

Additionally, as noted in the academic literature, illicit small arms and light weapons are prevalent in the violent actions of non-state actors and parties against civilians. While academic literature addresses the fine line between licit and illicit arms and the role that illicit arms play in violence against civilians and non-state actor violence, the existing scholarship does not connect these two concepts. Up until this point, these two concepts have been separated into different categories of scholarship with no comparison or overlap. This study will join these two ideas together to consider the relationship between legal arms and violent acts by non-government groups. This study will also analyze the actions of non-state actor violence and violence against civilians using small arms and light weapons as joint commodities.

In addition to joining two conceptual frameworks, this study also will test a regional application of this concept to illustrate possible connections. The regional application of the joint commodity model is critical because it distinguishes the concepts that can be applied within real-world cases. It is not solely a theoretical framework with no application basis. For the application of a real-world exemplar, the Middle East and North Africa will be tested. The Middle East and North Africa hold combinations of illicit arms, non-state actor violence, violence against civilians, and legal arms imports. These contributing factors make the two regions ideal for this

study. While this study focuses on these two regions, the concepts developed within this research hold the potential application for countries and regions around the globe.

This study will utilize the concepts above to test two series of hypotheses. The first set of hypotheses will contain an independent variable of small arms and light weapons imports within the Middle East and North Africa and a dependent variable of non-state actor violence within the two regions. The first set of hypotheses is listed below:

***H₀*: There is no relationship between small arms and light weapons transfers to the Middle East and North Africa and non-state actor violence within the two regions.**

***H₁*: There is a relationship between small arms and light weapons transfers to the Middle East and North Africa and non-state actor violence within the two regions.**

The second set of hypotheses will contain an independent variable of small arms and light weapons transfers within the Middle East and North Africa and a dependent variable of one-sided violence against civilians within the two regions. The hypotheses below will be used to test these two variables:

***H₂*: There is no relationship between small arms and light weapons transfers to the Middle East and North Africa and one-sided violence against civilians within these two regions.**

***H₃*: There is a relationship between small arms and light weapons transfers to the Middle East and North Africa and one-sided violence against civilians within these two regions.**

These two sets of hypotheses will be employed to test the utility of the joint commodity model for small arms and light weapons. This research will also use the joint commodity model to test as a potential explanation of arms movements. Additionally, this study will utilize a regional

perspective to illegal arms movements that improves on current models in academic scholarship. Lastly, this study will test for quantitative connections between non-state actor violence, violence against civilians, and illicit arms movements that are not outlined in academic literature.

Methods

The two sets of hypotheses within this study will utilize the independent and dependent variables listed above to test the relationship between legal arms transfers and non-state actor violence and violence against civilians. This study will use the arms import data for seven countries within the Middle East and North Africa: Iraq, Lebanon, Egypt, Sudan, Afghanistan, Yemen, and Libya. These seven countries were selected as representative countries for this study because they have available arms transfer statistics, non-state actor statistics, and violence against civilian population statistics. Additional countries in the Middle East and North Africa were considered for this study, but the countries did not contain substantive statistics for the independent and dependent variables in this analysis. This study will use data from 2010 to 2019. Additional windows of time were considered, but data limitations contributed to the selection of the years from 2010 to 2019. Data on small arms and light weapons imports prior to 2010 can be incomplete or minimal within the United Nations Register of Conventional Arms.

For the independent variable of small arms and light weapons transfers, this study will utilize data from the United Nations Register of Conventional Arms (UNROCA). The statistics in this database provide a comprehensive look at the arms exports and imports to countries worldwide. To measure the small arms and light weapons trades to a country, the independent variable will be measured utilizing the arms import data from the seven countries included in this study. While major conventional arms also in the database, this study will solely focus on the

small arms and light weapons imports into each country. The United Nations Register of Conventional Arms breaks down small arms and light weapons imports by type. The small arms and light weapons utilized in this study from the United Nations Register of Conventional Arms are included in the table below: ⁶⁷

Figure 1:

Small Arms	Light Weapons
Revolvers and pistols	Heavy machine guns
Submachine guns	Hand-held underbarrel and mounted grenade launchers
Light machine guns	Portable anti-tank guns
Rifles and carbines	Recoilless rifles
Assault rifles	Portable anti-tank missile launchers and rocket systems
Other small arms	Mortars of calibers less than 75mm
	Other light weapons

The UN Register of Conventional Arms includes all imports reported by UN member states. Member states are required to report all small arms and light weapons that are imported into their territory.⁶⁸ This database includes all imports from government and private sector actors. The import statistic for each type of weapon and each country will be totaled together to create a small arms and light weapons composite for each year. These yearly composite numbers will serve as the independent variable.

This study will draw from data in the Uppsala Conflict Data Program/Peace Research Institute, Oslo (UCDP/PRIO) Armed Conflict Database to calculate the two dependent variables. For the non-state actor violence dependent variable, the UCDP/PRIO Non-State Conflict Dataset will serve as the data source. For the purposes of the dataset, UCDP/PRIO describes non-state

⁶⁷ “United Nations Register of Conventional Arms”. *United Nations*.

⁶⁸ United Nations. n.d. “United Nations Register of Conventional Arms”.

actor conflict as “communal and organized armed conflict where none of the parties is the government of a state.”⁶⁹ The key statistic within this dataset will be the “Best Fatality Estimate” variable. The “Best Fatality Estimate” statistics from the seven countries from 2010 to 2019 will be compiled to create a yearly total for each individual country. The countries will then be added together to create a yearly composite number. For the violence against civilians dependent variable, the UCDP/PRIO One-sided Violence dataset will be used. The “Best Fatality Estimate” statistic within this dataset will be compiled together in an identical way to the statistic in the first dataset. Within this dataset, one-sided violence is described as “intentional attacks on civilians by governments and formally organized armed groups”.⁷⁰ The statistics from this variable will be added together to create another series of yearly totals. The yearly composite for each of the dependent variables will be matched to the corresponding yearly independent variable composites. While the “Best Fatality Estimate” will be used as the key statistic for both dependent variables, the statistic for each will come from two different UCDP datasets.

Two key statistical tests will be conducted utilizing the variables above to test the two sets of hypotheses. The first test is the Pearson correlation coefficient test. This test will be used to determine if there is any statistical relationship between small arms and light weapons transfers and non-state actor violence and small arms and light weapons transfers and violence against civilians. This test will also evaluate whether there is a strong or weak or positive or negative relationship between the two sets of variables. If the test indicates a correlation coefficient close to 0, this will indicate a weak correlation between the independent variable and the two dependent variables. If the correlation coefficient is closer to 1, this will indicate a stronger correlation between the independent and dependent variables.

⁶⁹ “UCDP Dataset Download Center”. Uppsala Conflict Data Program/Peace Research Institute, Oslo. n.d.

⁷⁰ Ibid.

The second statistical test included in this study is the p-value test. This test will determine if there is a statistically significant relationship between small arms and light weapons transfers and non-state actor violence, and small arms and light weapons transfers and violence against civilians. The p-value test will use an alpha of .05. The Pearson correlation coefficient will indicate any correlation between the two variables. The p-value test will determine if there is a statistically significant basis for causation between the independent and dependent variables. If the p-value is less than .05, this will confirm a statistically significant relationship between the independent and dependent variables. It will also indicate the need to reject the null hypothesis. If the p-value is greater than .05, this will indicate that there is not a statistically significant relationship between the two variables. It will also indicate that we should accept the null hypothesis.

In addition to the Pearson and p-value tests performed on the seven countries as a group, this study will also include tests on each individual country. These tests will provide further insight into the relationship between the independent and dependent variables in each country. This study will provide a holistic look at the relationship between the variables within the Middle East and North Africa region and the relationships between the two sets of variables within each country. While the hypotheses in this research study are solely centered around the cumulative totals from all seven countries, the individual breakdown of each country will provide additional value to the study.

Data

The data utilized in this study is included below:

Figure 2:

Country	Year	SALW Imports	Non-State Actors Fatalities	Attacks on Civilians Fatalities
Afghanistan	2010	17,512	99	185
Afghanistan	2011	22,972	25	76
Afghanistan	2012	9,075	0	83
Afghanistan	2013	7,714	0	64
Afghanistan	2014	4,978	0	240
Afghanistan	2015	5,286	532	161
Afghanistan	2016	3,426	365	0
Afghanistan	2017	31,934	72	96
Afghanistan	2018	13,870	631	122
Afghanistan	2019	3,823	51	195
Iraq	2010	7,961	0	706
Iraq	2011	39,526	0	322
Iraq	2012	20,012	0	769
Iraq	2013	38,965	0	0
Iraq	2014	126,631	64	0
Iraq	2015	14,699	26	56
Iraq	2016	30,413	0	114
Iraq	2017	55,411	0	102
Iraq	2018	37,331	0	0
Iraq	2019	3	0	0
Lebanon	2010	797	0	0
Lebanon	2011	16	0	0
Lebanon	2012	23	52	0
Lebanon	2013	4,871	127	47
Lebanon	2014	11,643	82	0
Lebanon	2015	106	121	0
Lebanon	2016	1,371	0	0
Lebanon	2017	6,768	223	0
Lebanon	2018	2,509	0	0
Lebanon	2019	269	0	0
Egypt	2010	528	0	0
Egypt	2011	19	31	0
Egypt	2012	6,844	74	0
Egypt	2013	57,445	119	0
Egypt	2014	77,127	28	0
Egypt	2015	1,718	0	0
Egypt	2016	642	0	0
Egypt	2017	5,652	0	0
Egypt	2018	1,479	0	0

Egypt	2019	626	0	0
Sudan	2010	0	625	41
Sudan	2011	0	255	155
Sudan	2012	22,109	58	0
Sudan	2013	0	1,291	0
Sudan	2014	0	959	94
Sudan	2015	0	898	371
Sudan	2016	0	180	448
Sudan	2017	672	262	65
Sudan	2018	1,816	100	75
Sudan	2019	1,550	112	188
Yemen	2010	42,610	26	0
Yemen	2011	0	0	142
Yemen	2012	80	0	0
Yemen	2013	645	0	0
Yemen	2014	4	460	0
Yemen	2015	20	374	0
Yemen	2016	10	1,001	0
Yemen	2017	0	402	0
Yemen	2018	0	322	0
Yemen	2019	0	234	0
Libya	2010	1	0	0
Libya	2011	0	0	152
Libya	2012	9,060	377	0
Libya	2013	77,674	0	0
Libya	2014	0	1,165	0
Libya	2015	30	1,105	0
Libya	2016	0	582	0
Libya	2017	0	686	0
Libya	2018	0	614	0
Libya	2019	0	152	0

The final statistical data is included below:

Figure 3:

	Pearson	p-value
Cumulative		
SALW Imports & Non-state Actor Violence	-0.258	0.031
SALW Imports & One-Sided Violence Against Civilians	-0.00783	0.949
Afghanistan		
SALW Imports & Non-state Actor Violence	-0.1846	0.61
SALW Imports & One-Sided Violence Against Civilians	-0.15389	0.617
Iraq		
SALW Imports & Non-state Actor Violence	0.765	0.0099
SALW Imports & One-Sided Violence Against Civilians	-0.34768	0.3249
Lebanon		
SALW Imports & Non-state Actor Violence	0.51727	0.1257
SALW Imports & One-Sided Violence Against Civilians	0.1855	0.6078
Egypt		
SALW Imports & Non-state Actor Violence	0.55195	0.09808
SALW Imports & One-Sided Violence Against Civilians	N/A	N/A
Sudan		
SALW Imports & Non-state Actor Violence	-0.3896	0.2657
SALW Imports & One-Sided Violence Against Civilians	-0.3458795	0.3276
Yemen		
SALW Imports & Non-state Actor Violence	-0.2933	0.4108
SALW Imports & One-Sided Violence Against Civilians	-0.1133	0.7553
Libya		
SALW Imports & Non-state Actor Violence	-0.3849	0.2721
SALW Imports & One-Sided Violence Against Civilians	-0.12489	0.731

Discussion of Results

Cumulative Country Results

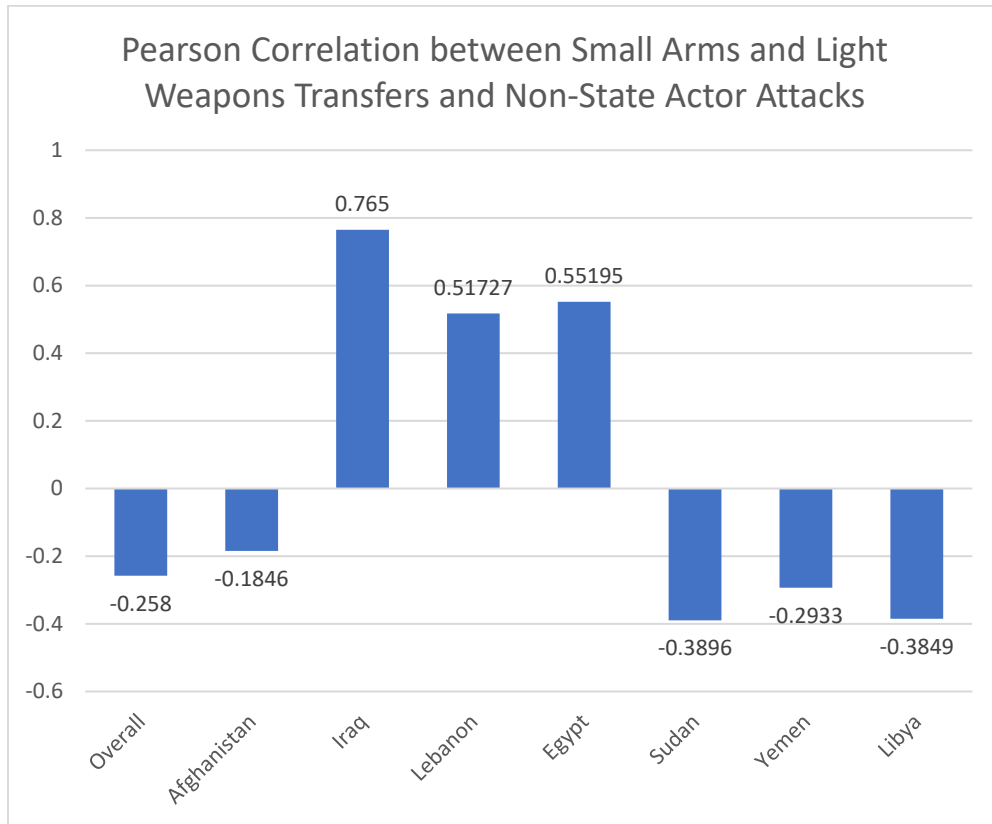
The statistical analysis conducted within this study indicates several different trends within the data. The first significant trend is within the test results for the cumulative country data. The p-value for small arms and light weapons imports and non-state actor attacks is .031, demonstrating a statistically significant relationship between these two variables. The p-value for small arms and light weapons imports and attacks on civilians is .949, indicating that there is not a statistically significant relationship between these two variables. These two p-value results are key as they relate to the two sets of hypotheses within this research. Additionally, the Pearson correlation tests indicate a correlation coefficient of $-.258$ for SALW imports and non-state actor conflict. This result demonstrates a weak correlation between the two variables. The Pearson correlation test for SALW imports and attacks on civilians had an even smaller correlation of $-.00783$. This outcome indicates a very weak correlation between the two variables.

Individual Country Results

Aside from the cumulative statistics of the seven countries, this study includes a statistical analysis for each country to assess the relationship between the variables for that specific country. Overall, the p-values for Afghanistan, Lebanon, Egypt, Sudan, Yemen, and Libya did not indicate a statistically significant relationship between SALW imports and non-state actor attacks within each respective country. The one country that differs in this respect is Iraq. The p-value test for Iraq demonstrated a p-value of .0099. This result indicates that there is a statistically significant relationship between SALW imports and non-state actor attacks within Iraq.

In the Pearson tests for each country, the results indicate that the correlation between the two variables is prevalent in several of the countries utilized in this study.

Figure 4:

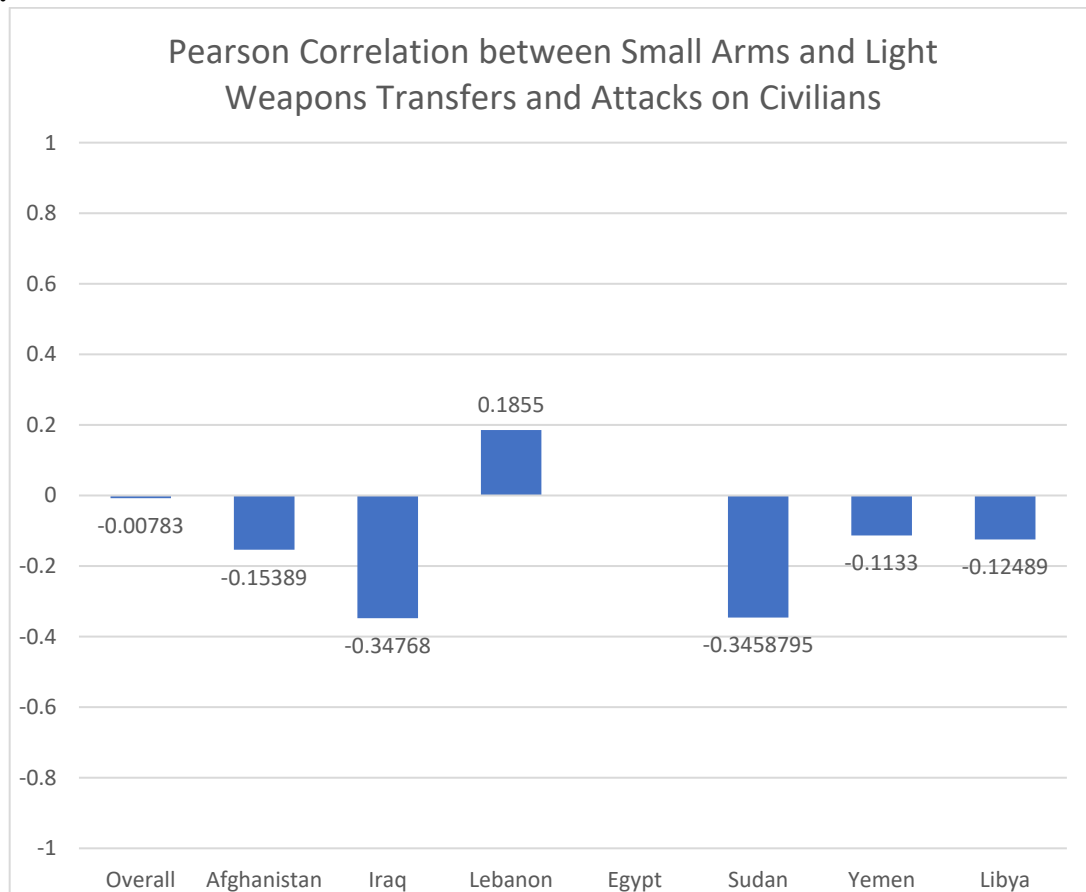


The Pearson test results for Iraq, Lebanon, and Egypt indicated .765, .517, and .552, respectively. These results demonstrate a correlation between SALW transfers and non-state actor attacks within these three states. The results from Iraq are significant, as they indicate a strong correlation between SALW transfers and non-state actor attacks. The additional countries of Afghanistan, Sudan, Yemen, and Libya indicated Pearson test results of -.185, -.390, -.293, and -.3849, respectively. These results confirm that a correlation does not exist between SALW imports and non-state actor attacks within these countries.

The p-value test results for SALW transfers and attacks on civilians indicate very different trends from the p-value results for the non-state actor attacks tests. The p-value for the cumulative results indicates no statistically significant relationship between SALW transfers and attacks on civilians in the countries overall. The individual country results reflect this as well. The results for all seven countries are well over the alpha of .5, indicating no statistically significant relationship between the two variables in each individual country.

The Pearson results in this study are also distinct from the results for SALW transfers and non-state actor attacks. For the cumulative test of all seven countries together, the Pearson results indicated an almost nonexistent correlation between SALW transfers and attacks on civilians in the seven states overall. Each of the individual states also displayed lower Pearson correlations that differed from the first tests of the non-state actor dependent variable.

Figure 5:



Each of the seven countries indicated a test result of a weak correlation between SALW transfers and attacks on civilians. The highest correlations came from Iraq and Sudan, which were -0.348 and -0.346, respectively. Even though these numbers were the strongest results, they still indicate a weak correlation between the two variables. Egypt was the only country that was not tested, as it did not have data on attacks against civilians available. In the data section, the Egypt Pearson test results are marked “N/A”.

Test Results Related to Hypotheses

Having summarized the Pearson and p-value test results, it is crucial to relate these results to the two original sets of hypotheses in this study. The results of the p-value test assist in the hypothesis assessment. The hypotheses are again included below:

***H₀*: There is no relationship between small arms and light weapons transfers to the Middle East and North Africa and non-state actor violence within the two regions.**

***H₁*: There is a relationship between small arms and light weapons transfers to the Middle East and North Africa and non-state actor violence within the two regions.**

In the first set of hypotheses, the p-value test indicates a result of .031. Compared to the alpha of .05, this test result indicates a statistically significant relationship between SALW transfers in the Middle East and North Africa and non-state actor violence within the region. Based on this assessment, the null hypothesis is rejected and the alternative hypothesis accepted. In accepting the alternative hypothesis, this study concludes that there is a statistically significant relationship between small arms and light weapons transfers and non-state actor violence within the Middle East and North Africa.

***H₂*: There is no relationship between small arms and light weapons transfers to the Middle East and North Africa and one-sided violence against civilians within these two regions.**

***H₃*: There is a relationship between small arms and light weapons transfers to the Middle East and North Africa and one-sided violence against civilians within these two regions.**

The p-value test results are also important for the testing of the second set of hypotheses, which centers around the relationship between small arms and weapons transfers to the Middle East and North Africa and one-side violence against civilians within the two regions. The p-value test indicated a result of .949, which is well above the alpha of .05 utilized in this study. Subsequently, this study does not accept the alternative hypothesis and maintains that the null hypothesis is correct. As the null hypothesis has been proven correct, it is confirmed there is no statistically significant relationship between small arms and light weapons transfers to the Middle East and North Africa and one-sided violence against citizens. The Pearson correlation

test results also confirm that there is no statistical significance between the two variables, in addition to a weak correlation between the two.

Implications

The p-value and Pearson test results hold important implications for the study of illicit small arms and light weapons trafficking. As this study builds upon the theory that licit arms and illicit arms are interchangeable, the results hold indications for further testing of the joint commodity concept. The statistically significant relationship between small arms and light weapons transfers and non-state actor attacks provides quantitative proof that legal arms transfers can contribute to non-state actor activity. The statistics indicated by this study also provide quantitative proof that legal arms and illegal arms can be assessed as joint goods. As quantitative tracking of illicit arms is difficult to assess due to the lack of publicly available information, the substitution of legal arms can lead to further quantitative study that would have otherwise been impossible. The outcome of this study is also telling regarding the relationship between legal SALW transfers and non-state actor activity. As previous academic scholarship has established the relationship between illicit arms and terrorist and criminal activity, this study provides a basis for an established relationship between legal arms transfers and terrorist and criminal activity. This research serves as a building block of further study of the intersection between legal arms, illegal arms, and non-state actor activity.

While this test did not indicate a relationship between SALW transfers and attacks on civilians, it does not mean that attacks on civilians should be dismissed in other tests or research studies. Attacks on civilians can serve as a useful variable when determining the scope and effects of licit and illicit arms within a country. When examining other countries or regions, the

relationship between legal SALW transfers and attacks on civilians may be strong. As individuals can use both legal and illegal weapons against civilian populations in a one-sided conflict, the dependent variable of attacks on civilians still holds promise for future statistical tests.

While the two sets of hypotheses utilized within this study highlighted seven countries' cumulative results, individual country analysis is also included this study to demonstrate the different results between each nation. Additionally, the results for each country create an individual picture of the relationship between the independent variable and the dependent variables within those respective borders. While the existing academic scholarship indicates common themes and phenomena in the use of licit and illicit small arms and light weapons, this study indicates that these trends can still differ across countries. The cumulative and individual analyses also demonstrate the flexibility and applicability of the tests performed in this study. The joint commodity approach to licit and illicit arms can be utilized in several regional and state situations. Finally, this research indicates the possibilities for additional dependent variables to be analyzed against the small arms and light weapons transfers within a country or region. As shown in the aforementioned academic scholarship, many research topics intersect with illicit arms trafficking. Scholars can use the work demonstrated in this study to support additional research on these topics. When used in quantitative study, the joint commodity model can be utilized and altered to suit the research focus of the specific country or region in question. The joint commodity concept can also be used within other forms of research, including qualitative analysis.

While not listed in one of the original hypotheses for this study, it is important to note that there is also a statistically significant relationship between the overall number of non-state

attacks and the small arms and light weapons import statistics. This provides further statistical relationship between SALW imports and non-state actor attacks. While this relationship could be connected to outside factors outside of the variables, the results indicate the importance of further testing of this subject. Additionally, while there was not a statistically significant relationship between the overall number of attacks on civilians and SALW imports, the relationship between the two also deserves further testing.

It is important to note that there may be additional reasons for the relationship between legal small arms and light weapons and non-state actor activity in the seven countries included in this study. While this study notes the statistically significant relationship between SALW imports and fatalities from non-state actor attacks, the relationship can be attributed to other factors not mentioned in this study. Additionally, the countries that demonstrated a strong correlation but statistically insignificant relationship between SALW transfers and non-state actor violence may represent a spurious correlation. The possibilities of additional factors outline the need for further research. Additionally, the limitations of the definitions of violence within this study must be acknowledged. This study centers around a narrow classification of violence within the Middle East and North Africa. While definitions of non-state actor violence and violence against civilians from the Uppsala Conflict Data Program/Peace Research Institute, Oslo database, the definitions utilized are not absolute in defining the two types of violence. Overall, the results of this study warrant additional research and testing of the joint commodity concept.

Conclusion

Overall, this study has highlighted the importance of legal arms transfers in the worldwide phenomenon of illicit arms trafficking. Small arms and light weapons trafficking is a

complex issue with many contributing sources and actors. While there are many dimensions to this phenomenon, the study of legal arms transfers can assist in developing solutions to address the problem. While weapons seizure data has value, it should not be used as the primary statistic when addressing arms trafficking. The issue should be studied from the point that a legal weapon is transferred, not at the point in which it becomes illicit. This can be done through the study of legal arms transactions, holdings, and transfers. In utilizing the joint commodity concept, research is not limited to small numbers of illicit arms data. Through the joint commodity model, arms transfers can truly be assessed in quantitative research. Further study can also be conducted with the joint commodity model to study other issues in conjunction with arms transfers. Legal arms transfers can also be used for further study of issues that were highlighted in this study, including non-state actor violence and violence against civilians. As noted in this study, there is a relationship between non-state actor violence and legal small arms and light weapons transfers. While there was not a relationship between legal arms transfers and attacks on civilians in this study, there are possibilities for further study of this concept with other regions and countries around the world. Additional violent behavior can also be studied in conjunction with legal arms transfers to determine a possible connection. In summary, this study indicates the versatility and applicability of using legal transfers for quantitative analysis. Overall, the key to understanding illicit arms trafficking is through the quantitative tracking and tracing of legal arms.

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Curriculum Vita

Katherine Wickham was born and raised in Wichita, Kansas. She holds a bachelor's degree in Business Administration from Baylor University and a master's degree in Business Administration. She previously worked as an officer in the U.S. Intelligence Community before departing to complete her master's at Johns Hopkins University. She is projected to graduate with a Master of Arts in Global Security Studies from Johns Hopkins in May 2021.